CHOICE, EXPERIENCE, AND THE GENERALIZED MATCHING LAW

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Five pigeons were exposed to different pairs of concurrent variable-interval, variable-interval schedules on nine experimental conditions of 30 sessions each. For every session, the parameters of the generalized matching equation were computed for the first five, six, seven, eight, and nine experimental conditions. The exponent *a*, both for response and time distribution, tended to decrease with increases in number of experimental conditions and to increase with number of sessions per condition, but values of *k* (bias) varied unsystematically. When the subjects were exposed to five new pairs of schedules, with 55 sessions per condition, the findings were confirmed. Data from the literature on the generalized matching law suggest that the variability of exponent values may be explained in part by the use of naive or experienced subjects in different investigations and by the variability in number of experimental conditions and in number of sessions per condition.

Key words: matching, concurrent schedules, key peck, pigeons

In concurrent schedules of reinforcement, the generalized matching law (Baum, 1974) describes the relationship between response and reinforcement distributions:

$$R_1/R_2 = k(r_1/r_2)^a, \qquad (1)$$

where R and r refer to frequency of responding and reinforcement, respectively, a and k are constants, and subscripts identify schedules of the concurrent pair. When time spent responding in each schedule is used as a measure of concurrent performances, the equation for the generalized matching law is:

$$T_1/T_2 = k(r_1/r_2)^a. \qquad (2)$$

The parameter k measures bias toward one alternative. When pigeons are used as subjects, k measures bias toward a key, color, or kind of schedule. The exponent a is interpreted as a measure of the sensitivity of behavior to variations in reinforcement distribution (Baum, 1974).

Reviewing the literature on concurrent schedules, de Villiers (1977) and Baum (1979) found that the value of exponent a varies among experiments from .38 to 1.50, with most cases between .80 and 1.00. Searching for sources of variability among experiments, Baum (1979) found a systematic difference between his own data and those from experiments conducted by Davison and associates (e.g., Lobb & Davison, 1975). For Baum's data, the mode of the distribution of exponent values was 1.00, whereas for Davison's data the mode was .80 for response distribution and 1.00 for time distribution. In Baum's (1979) interpretation,

> different customary details of procedure, perhaps unreported, lead to divergent results. The procedural details may be diverse: level of deprivation, type of reinforcer, construction of the chambers, the intervals and their ordering in the VI schedules, and so on (p. 278).

A comparison of Baum's and Davison's experiments (see references in Baum, 1979) shows that Baum used naive subjects, but Davison used the same subjects in several experiments. The present investigation examined the possibility that the differences in exponent values

may be due to subjects' previous experience with concurrent schedules.

METHOD

Subjects

Five adult male pigeons, experimentally naive, served. Subjects were maintained at 80% of their free-feeding body weights.

Apparatus

The experimental chamber was similar to that described by Cumming and Berryman (1961). It consisted of a triangular aluminum cage with three keys for use with rear-projection systems. The keys could be operated by a force of .1 N or more. Located in a soundproof room, the aluminum cage was enclosed in a chamber that attenuated most extraneous sounds. In a separate room, standard electromechanical programming and recording equipment monitored the experimental chamber.

Procedure

The central response key was illuminated by a yellow light (changeover key). The right key could be illuminated by a blue light, the left key by a red light (main keys). Pecks at the changeover key controlled which side was lit. A 3-sec changeover delay (COD; Herrnstein, 1961) was in effect after each switching response. Attached to a wall of the enclosing chamber, a house light was lit during the experiment.

Phase I. After shaping, subjects were exposed to concurrent variable-interval, variable-interval schedules (VI 1-min on the red/left key, VI 3-min on the blue/right key). The concurrent pair was varied in different experimental conditions, always after 30 sessions in each condition (Table 1). Sessions ended after 60 reinforcers (a 5-sec period of access to grain). During reinforcement, keylights were off, the feeder light was on, and counters were inoperative.

Phase II. The same procedure as in Phase I was followed, except that (1) a different sequence of concurrent pairs was used for each subject, (2) sessions ended after 30 reinforcers, and (3) experimental condiitons were in effect for 55 sessions. Two months elapsed between the last condition of Phase I and the first of Phase II.

Table 1

Summary of the conditions experienced by each subject.

Phase	Subjects	Order	Schedules (rft/hr) Red Key	Blue Key	No. of Sessions
I	All subjects	1	60	20	30
		2	20	60	30
		3	70	10	30
		4	10	70	30
		5	56	24	30
		6	24	56	30
		7	40	40	30
		8	72	08	30
		9	08	72	30
II	22	1	20	60	55
		2	60	20	55
		3	10	70	55
		4	70	10	55
		5	24	56	55
	23	1	70	10	55
		2	10	70	55
		3	56	24	55
		4	24	56	55
		5	60	20	55
	24	1	10	70	55
		2	70	10	55
		3	20	60	55
		4	60	20	55
		5	24	56	55
	25	1	56	24	55
		2	24	56	55
		3	60	20	55
		4	20	60	55
		5	70	10	55

RESULTS

The appendix gives the sums of raw data of the last five sessions in each condition in Phase I and of Sessions 26 to 30 and of 51 to 55 (the last five) of Phase II.

Figure 1 shows how the value of exponent a in Equations 1 and 2 varied as the number of experimental conditions increased from five through nine in Phase I. When the sums of results from the last five sessions (26 through 30) in the first five experimental conditions were considered, values of the exponent were approximately 1.00 for responses—ranging from .78 (P22) to 1.18 (P25), and approximately .95 for time—ranging from .68 (P22) to 1.07 (P25).

As the number of experimental conditions increased, the values of the exponents decreased for all subjects, both for response and time data. When all nine conditions were considered, values of the exponent were approxi-
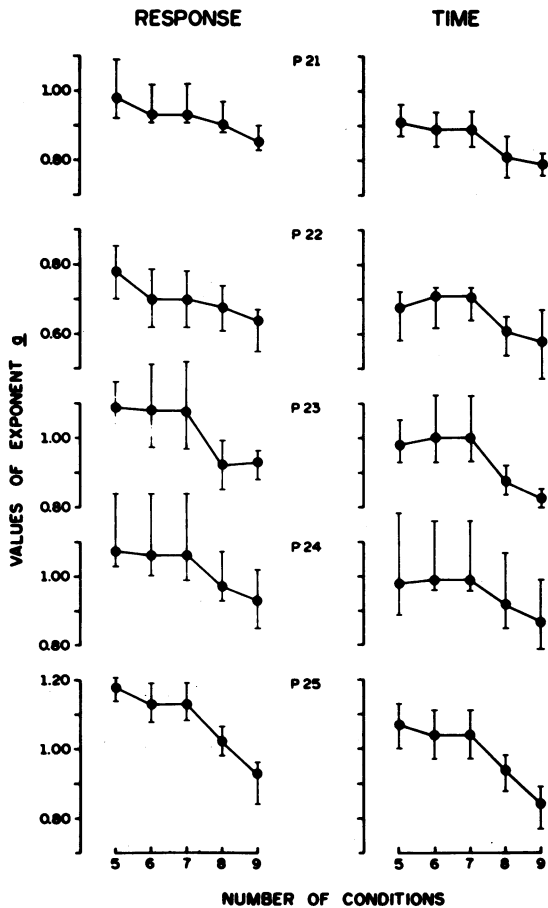
RESPONSE   TIME

Fig. 1. Values of exponent *a* in Equations 1 and 2 as a function of the number of experimental conditions used in their computation. Brackets indicate range from higher to lower value of *a* when data from individual sessions of that block of five sessions were used. Points are exponents obtained when totals of the last five sessions were used.

Table 2

Parameters of Equations 1 and 2 for group data ($n = 5$) for different numbers of experimental conditions.

Behavior Measures		Conditions				
		5	6	7	8	9
Resp.	a	1.03	.99	.99	.90	.86
	k	.91	.99	.98	.92	.96
	r^2	.90	.88	.88	.87	.88
Time	a	.93	.93	.93	.84	.79
	k	.98	.98	.95	.88	.93
	r^2	.88	.88	.86	.83	.84

should result in lower exponents than those found for the first five conditions. Table 3 shows values of *a* and r^2 (the proportions of the variance accounted for) for the first five, all nine, and the last five conditions of Phase I. Table 3 shows that r^2 is generally high both for the first and the last conditions, for responses and for time. The proportion of variance accounted for tended to remain constant as exponent values decreased across conditions.

Figure 2 shows that the value of parameter *k* in Equations 1 and 2 was not constant as the number of experimental conditions increased. It varied unsystematically from subject to subject and with increases in number of conditions. For P22, the value of *k* for responses did not change in the same direction as the value of *k* for time.

Figure 3 shows data from the first five conditions in Phase I and from the five conditions in Phase II. Values of exponent *a* for responses were computed for all first, second, third, etc.

mately .85 for responses—ranging from .64 (P22) to .93 (P24), and approximately .80 for time—ranging from .58 (P22) to .87 (P24). Figure 1 also shows the range of variability in values of the exponent when the data from each of the last five sessions were used for the computation of the parameters of Equations 1 and 2. Brackets indicate the higher and lower value of *a* in those last five sessions. Table 2 shows the parameters of Equations 1 and 2 for group data.

Since the exponents of Equations 1 and 2 decreased as the number of experimental conditions increased, the computation of parameters for the last five conditions of Phase I

Table 3

Exponent values and proportion of variance accounted for by Equations 1 and 2 when the first five, all nine, or the last five conditions of Phase I are considered.

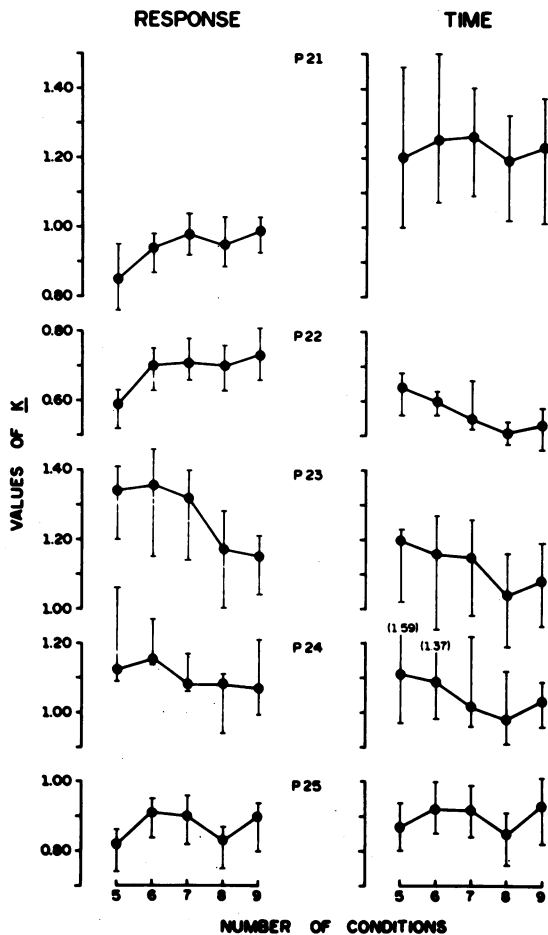| Subjects		Conditions					
		First five		All nine		Last five	
		Resp	Time	Resp	Time	Resp	Time
P 21	a	.96	.93	.84	.80	.76	.72
	r^2	.93	.93	.93	.96	.99	.94
P 22	a	.78	.68	.64	.58	.52	.67
	r^2	.94	.83	.85	.78	.93	.86
P 23	a	1.09	.98	.93	.83	.88	.77
	r^2	.93	.91	.90	.89	.84	.84
P 24	a	1.07	.98	.93	.87	.85	.80
	r^2	.94	.94	.92	.92	.89	.89
P 25	a	1.18	1.07	.93	.84	.69	.63
	r^2	.96	.93	.90	.88	.99	.98

Fig. 2. Values of parameter k (bias) in Equations 1 and 2 as a function of the number of experimental conditions used in their computation. Brackets indicate range from higher to lower value of k when data from individual sessions of that block of five sessions were used. Points are values of k obtained when totals of the last five sessions were used.
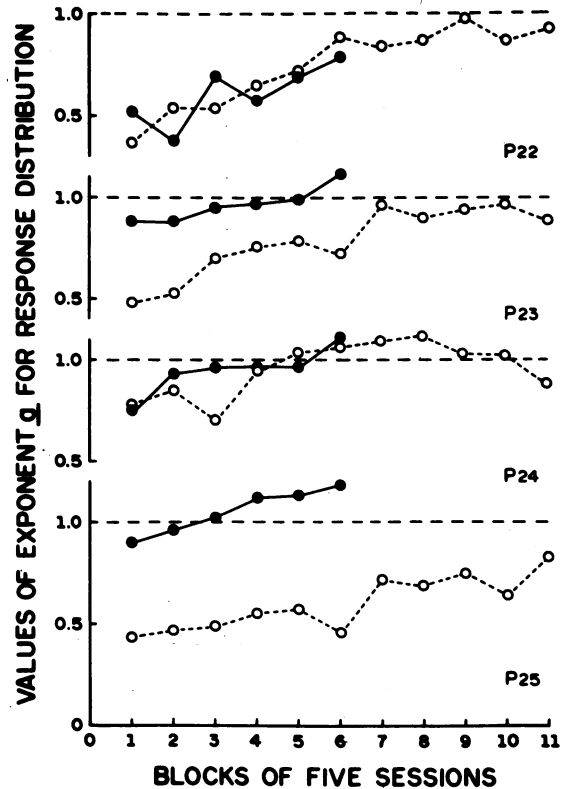

Fig. 3. Comparison of exponent values referring to response ratios computed for the first five experimental conditions of Phase I and the five conditions from Phase II. Points represent median exponent values of blocks of five sessions.

sessions in each phase. In Figure 3 are presented only the median values of a for blocks of five sessions. For Bird P22, the value of a tended to increase as the number of sessions increased, in both phases, and there was practically no difference in initially low values from Phase I and Phase II in the first 30 sessions. The last 25 sessions of Phase II show that the value of a was increasing when each experimental condition was interrupted. Data from Pigeons P23 and P25 also show values of a increasing, in both phases, as the number of sessions increased. For both subjects, data

from Phase I show higher values of the exponent than data from Phase II. The results from Pigeon P24 show that in both phases the exponent was close to 1.00 in most sessions; the increase in number of sessions in Phase II did not change this trend. Data from Subject P21 are not presented because this bird died during Phase II.

Figure 4 shows, for time distributions, the values of exponent a as a function of number of sessions, in Phases I and II. For each subject, the exponents for time change similarly to changes in exponents for responses shown in Figure 3.

Table 4 shows the proportion of variance accounted for associated with the data shown in Figures 3 and 4. That proportion tends to increase during the first 15 sessions. The coefficients are generally higher than .90 after the third block of five sessions, both for responses
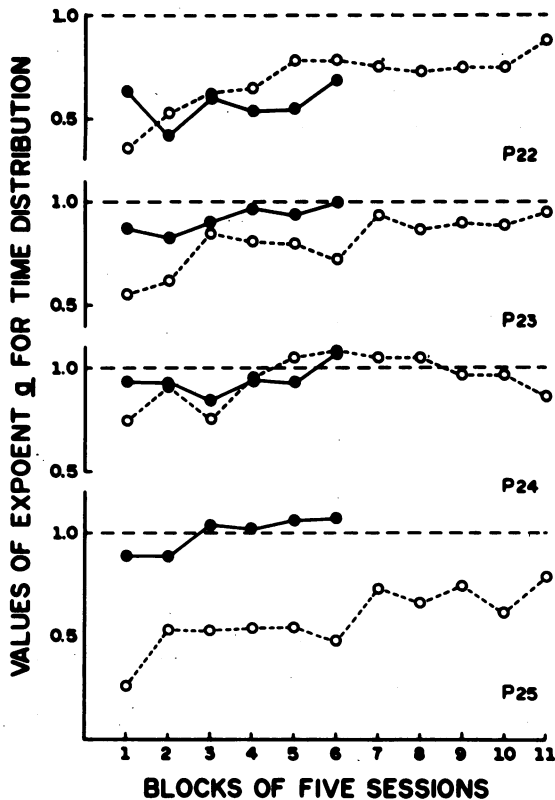
Fig. 4. Comparison of exponent values referring to time ratios computed for the first five experimental conditions of Phase I and the five conditions from Phase II. Points represent median exponent values of blocks of five sessions.

and time. The major deviation from the general trend, again, comes from Bird P22.

DISCUSSION

Results from the present experiment clearly show effects on the exponent of the generalized matching law (Baum, 1974) of number of sessions per experimental condition, and of number of experimental conditions. In Phase I the results from experimentally naive birds generally show both response and time matching, with exponents close to 1.00 when only data from the last five of 30 sessions were considered and when subjects had been exposed to only five different pairs of schedules. As the number of conditions considered for the computation of parameter values increased, exponent values tended to decrease, showing undermatching.

The analysis based on individual sessions shows that even after 30 sessions in Phase I, exponent values were not stable and showed an ascending trend. Results from Phase II show that for three of four birds, the ascending trend was still present after 55 sessions. Such results indicate that exponent values tend to decrease with number of experimental conditions and to increase with number of sessions per condition.

It should be noticed that Figures 1 and 2 could have included data from Phase II, thus showing parameters for up to 14 conditions. Because Phase II was procedurally different from Phase I in number of reinforcers per session, in number of sessions, and in the sequence of schedules, and because two months elapsed between the end of Phase I and the beginning of Phase II, that computation was not included. The present conclusions would not be changed with that inclusion. It could only lead to the suggestion that the exponent values might stabilize around a given value if the number of conditions continued to increase.

Data reported in the literature on the generalized matching law support the present conclusions. Table 5 presents a list of articles presenting data both from experiments using naive subjects and from experiments using subjects with previous experience with concurrent schedules. Information on previous experience of subjects, number of experimental conditions, number of sessions per condition, and obtained values for responses and/or time exponents were sought in those reports.

Figure 5 shows frequency distributions of exponents for responses and time reported in those articles. To facilitate a comparison of the four graphs the ordinate presents relative frequency of occurrence of exponent values. The data from experiments listed in Table 5 are presented in different graphs according to minimum number of sessions per experimental condition. In the upper graph, the relative frequency of exponent values from response ratios and time ratios was computed for data from subjects on concurrent procedures that involved, at least in some conditions, 10 sessions or fewer per condition. Figure 5 shows that as the minimum number of sessions increases, higher exponent values for response ratios tend to be more frequent.

Table 4

Proportion of variance accounted for by Equations 1 and 2. The coefficients are associated
with exponents shown in Figure 3 (responses) and Figure 4 (time).

Subjects	Blocks of Five Sessions										
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
Responses—Phase I											
P 21	.91	.88	.96	.89	.86	.93					
P 22	.87	.80	.82	.73	.82	.95					
P 23	.71	.76	.97	.87	.89	.90					
P 24	.86	.82	.93	.91	.94	.96					
P 25	.99	.92	.97	.97	.98	.94					
Responses—Phase II											
P 22	.81	.81	.86	.97	.99	.90	.95	.92	.94	.93	.90
P 23	.56	.93	.97	.96	.92	.89	.98	.94	.90	.85	.97
P 24	.69	.89	.96	.90	.96	.97	.90	.95	.90	.95	.81
P 25	.92	.89	.85	.96	.90	.84	.92	.94	.99	.98	.97
Time—Phase I											
P 21	.96	.97	.94	.87	.88	.92					
P 22	.68	.65	.59	.71	.65	.88					
P 23	.91	.95	.90	.90	.97	.90					
P 24	.89	.93	.90	.95	.98	.95					
P 25	.98	.94	.93	.91	.96	.94					
Time—Phase II											
P 22	.54	.85	.70	.91	.92	.90	.92	.88	.96	.90	.81
P 23	.64	.87	.97	.97	.97	.99	.97	.94	.91	.86	.96
P 24	.87	.98	.90	.92	.95	.97	.71	.91	.86	.99	.88
P 25	.53	.51	.85	.92	.92	.90	.98	.92	.95	.86	.95

Table 5

Sources of Data Used in Figures 5 and 6.

| Authors	Year of Publication	Authors	Year of Publication
Bacotti	1977	Lobb and Davison	1975
Baum	1973	Logue and de Villiers	1978
Baum	1975	Marcucella and Margolius	1978
Baum	1976	McSweeney	1975
Baum and Rachlin	1969	Menlove	1975
Bauman et al.	1975	Miller et al.	1980
Beautrais and Davison	1977	Moffitt and Shimp	1971
Bourland and Miller	1981	Nevin	1971
Catania	1963	Newby et al.	1978
Cliffe and Parry	1980	Norman and McSweeney	1978
Davison and Ferguson	1978	Pliskoff and Brown	1976
Davison and Hunter	1976	Pliskoff and Fetterman	1981
Fantino et al.	1972	Poling	1978
Farley	1980	Poling and Breuning	1981
Figueiredo and Ferrara	(Note 5)	Rider	1981
Graft et al.	1977	Rodewald	1978
Guilkey et al.	1975	Ruddle et al.	1979
Herrnstein	1961	Schroeder and Holland	1969
Herrnstein and Heyman	1979	Stubbs and Pliskoff	1969
Hollard and Davison	1971	Trevett et al.	1972
Hutton et al.	1978	Vaughan	1981
LaBounty and Reynolds	1973	Wheatley and Engberg	1978
Leigland	1979		

●—● RESPONSES   ○---○ TIME
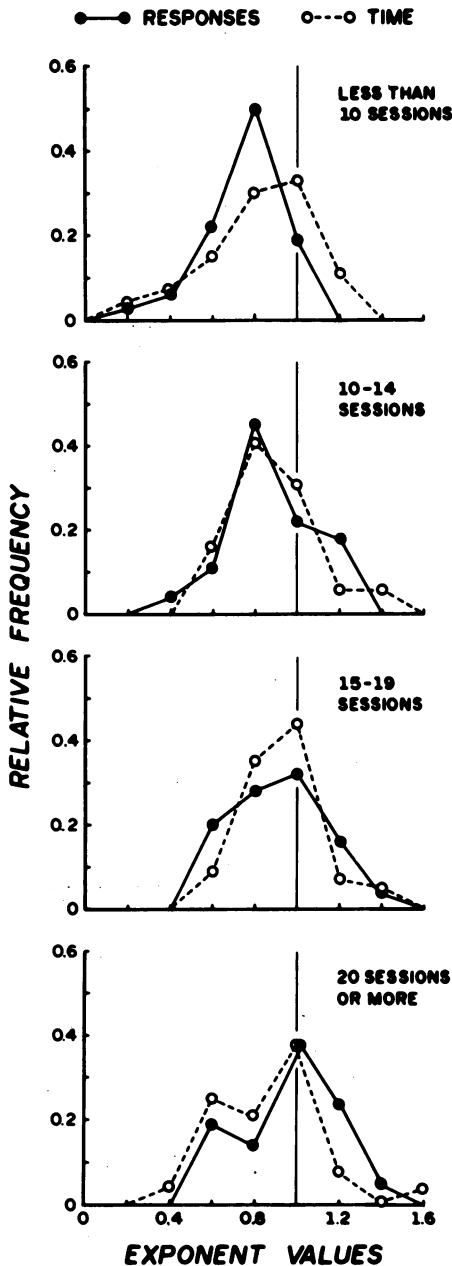
Fig. 5. Relative frequency of occurrence of exponent values for different minimum number of sessions. Data from experiments listed in Table 5. Class intervals of .2 were used, and the mean points of the class intervals are indicated on the abscissa. Total number of cases per panel, from top to bottom graphs, are 36, 45, 25, and 21 for response exponents; and 27, 32, 45, and 24 for time exponents. The data are presented in four different graphs according to minimum number of sessions per experimental condition used in each experiment.

Figure 6 shows the differential effect of minimum number of sessions on the determination

of exponent values for response ratios (upper graph) and for time ratios (lower graph). The data used in Figure 6 are the same as those used in Figure 5. Exponent values were grouped in three classes: exponents lower than .90 (undermatching), from .90 to 1.09 (matching), and equal to or higher than 1.10 (overmatching). When the minimum number of sessions per condition was less than 10, most exponent values for response ratios were lower than .90. Figure 6 shows that as the minimum number of sessions increases, the relative frequency of exponents in that class decreases, with increases in the other classes; with 20 sessions or more, most exponents are in the .90 to 1.09 class, with about equal relative frequencies in the lower and upper classes. No such effect is observed for exponents referring to time ratios (lower graph). Irrespective of minimum number of sessions per condition, exponents lower than .90 are more frequent, and exponents higher than 1.09 have a low relative frequency.
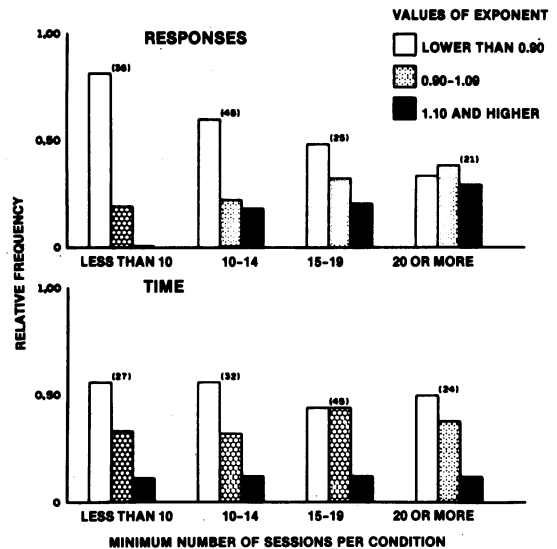

Fig. 6. Differential effect of minimum number of sessions on the determination of exponent values for response (upper graph) and for time (lower graph) ratios. The data are the same as those presented in Figure 5, analyzed here in a different way. Each set of three bars represents relative frequencies of exponent values grouped according to minimum number of sessions per condition. In each set of three bars, the left one represents relative frequency of exponent values lower than .90; the center bar, exponent values from .90 to 1.09, and the right bar, exponent values of 1.10 and higher. For each set of three bars, the sum of relative frequencies is 1.00. Numbers in parentheses are the total number of cases in each set of three bars.

It should be noticed that exponents on Baum's (1979) Figure 7 are still generally higher than those from most reports listed in Table 5. Number of experimental conditions (Phase I of the present experiment) and number of sessions per condition (Phase II and Figures 5 and 6) may explain at least part of this difference. In an experiment reported by Graft, Lea, and Whitworth (1977), for instance, in which the number of days per condition varied from 7 to 47, the exponent for response distribution computed for those conditions with fewer than 20 days was .66, and for those conditions with 20 days or more was .88; for

all experimental conditions, it was .81 (Note 1). In data reported by Lobb and Davison (1975), exponent values obtained from the concurrent VI VI conditions were .75 for responses and .99 for time when only those conditions with 20 sessions or fewer were considered, and .87 for responses and 1.15 for time when conditions with more than 20 sessions were considered. Wheatley and Engberg (1978) presented data on concurrent VI VI with treadle press and key peck as concurrent operants and with number of sessions varying from 9 to 32. When their data were analyzed according to number of sessions per condition, the
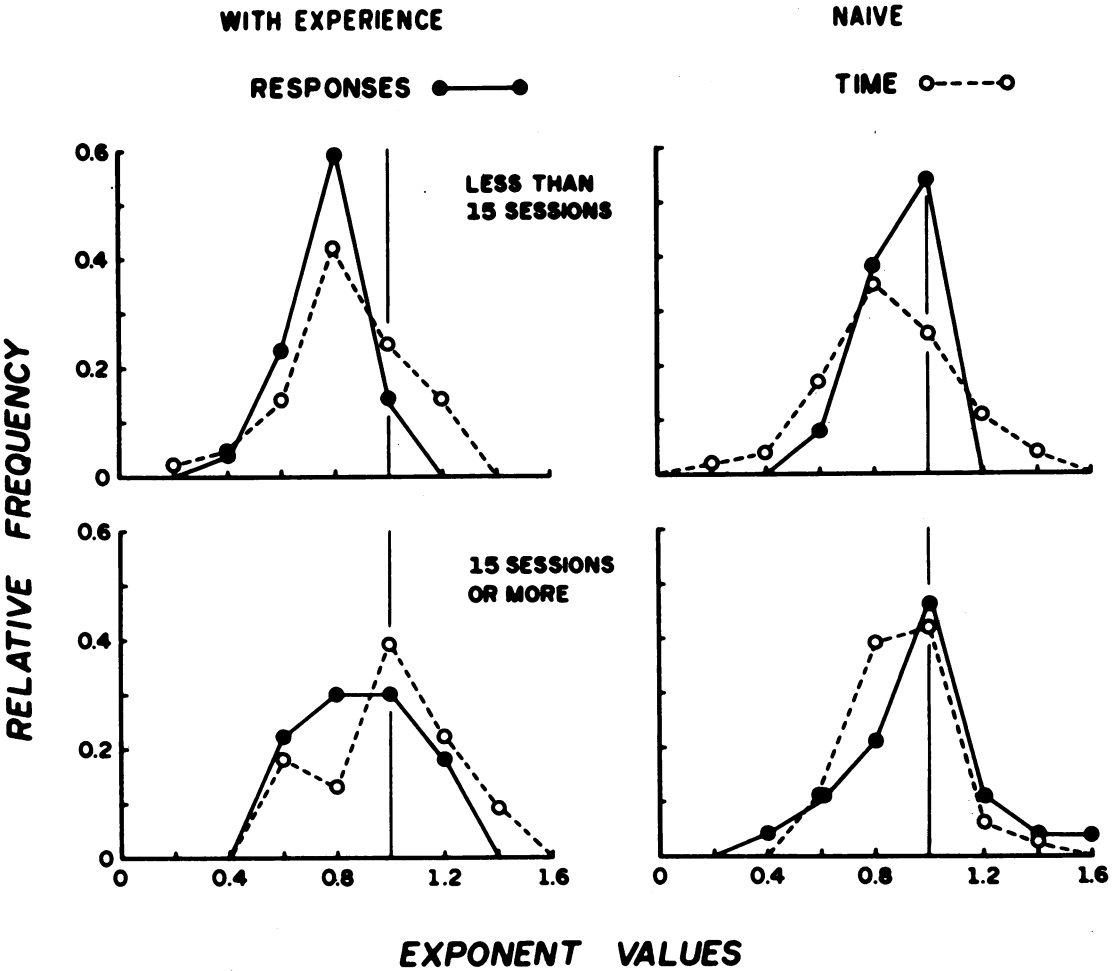
Fig. 7. Relative frequency distribution of exponents for responses (solid line) and for time (broken line) separated for previous experience of subject with concurrent schedules and for minimum number of sessions per experimental condition. The data are the same as those presented in Figures 5 and 6, divided here in four groups according to previous experience ("with experience" vs. "naive" and "less than 15 sessions" vs. "15 sessions or more"). Total numbers of cases, clock-wise from top left, are 22, 59, 23, and 23 for responses, and 13, 46, 36, and 28 for time.

exponents for response, referring to data from three pigeons, increased from .45 (conditions with 9 to 13 sessions), to .75 (14 to 19 sessions), and to .77 (20 sessions or more). Similarly, exponents for time increased from .22 (9 to 13 sessions), to .86 (14 to 19 sessions), and to .92 (20 sessions or more).

It could be argued that studies that use many experimental conditions would be those with few sessions per condition. In that case, the effect attributed to number of sessions in Figures 5 and 6 could be due to number of experimental conditions. However, the Pearson coefficient of correlation between minimum number of sessions and number of experimental conditions in those experiments was insignificant: .086 (n = 68).

A recent review (McSweeney, Melville, Buck, & Whipple, 1983) supports the conclusion regarding the effect of number of sessions per condition. It is suggested that approximately 30 sessions per condition are required before local rates of responding and reinforcement are equalized between component schedules of the concurrent pair—that is, before exponent values in Equations 1 and 2 are close to 1.00.

Figure 7 shows the same data as that used in Figures 5 and 6 (Table 5), with the subjects' previous experience with concurrent schedules considered. The upper left graph shows the relative frequency distribution of exponents for responses (solid line) and for time (broken line) from experiments using subjects with previous experience with concurrent schedules and with fewer than 15 sessions per condition. For both distributions .80 is the modal class of exponent values. In the right lower graph are data from experiments using naive subjects and 15 or more sessions per experimental condition. The modal class is 1.00 both for response and time distributions.

Generally, the data from the present experiment and those found in the literature on concurrent schedules indicate that the chances of finding exponent values for Equations 1 and 2 close to 1.00 increase with the use of naive subjects, a low number of experimental conditions (five or six), and 30 or more sessions per condition. As the number of conditions increases, larger numbers of sessions are needed before the effects of previous experience cease to interfere with sensitivity to reinforcement distribution.

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Appendix

Summary of data for each pigeon. Entries are totals for the last five sessions in each condition (Sessions 26 to 30 in Phase I, Sessions 51 to 55 in Phase II) and for Sessions 26 to 30 in Phase II.

Subjects	Condition	Reinforcers		Responses		Time		Changeovers
		Red	Blue	Red	Blue	Red	Blue	
				Phase I				
21	1	226	74	7191	2248	10798	3201	637
	2	68	232	1653	10205	3611	10709	425
	3	256	44	10403	3049	10297	2634	568
	4	39	261	1541	8901	2423	11216	349
	5	219	81	9637	3229	10971	2244	667
	6	91	209	5412	8097	5832	7927	983
	7	152	148	6848	5298	8054	6122	649
	8	271	29	9154	1592	11269	2211	341
	9	32	268	1998	9312	2740	9710	442
22	1	221	79	10172	5435	9573	4196	1387
	2	74	226	2997	13659	4394	9322	1506
	3	255	45	15426	10246	8432	5214	1964
	4	38	262	1851	14869	1469	11964	382
	5	205	95	9955	7347	5603	8365	1969
	6	84	216	5822	7367	2630	11046	1122
	7	142	158	6923	9523	3359	11178	1324
	8	262	38	13141	5623	7283	7097	1817
	9	36	264	2220	8429	2439	11733	414
23	1	224	76	8150	2145	11093	2799	716
	2	72	228	2076	8338	2747	10798	489
	3	260	40	9413	1357	10742	2522	519
	4	40	260	1843	8177	2582	10968	511
	5	228	72	11058	1148	12156	1719	437
	6	86	214	4507	8538	3997	10246	913
	7	152	148	6365	5411	7621	6648	1037
	8	271	29	10375	2627	10573	2815	526
	9	32	268	1243	8292	2591	10615	489
24	1	230	70	9092	2003	11091	2802	428
	2	70	230	2636	13217	2341	11098	381
	3	266	34	13993	2260	11316	1992	402
	4	39	261	2130	12181	2445	11219	413
	5	221	79	14224	2262	11241	2215	537
	6	81	219	3165	7052	3981	10297	472
	7	152	148	6560	8519	5986	8396	491
	8	269	31	11827	2236	10817	2271	477
	9	33	267	2630	11919	2650	10829	433
25	1	231	69	12025	2151	11514	1999	663
	2	70	230	1440	10867	1747	11815	479
	3	259	41	14492	2533	10729	2502	643
	4	39	261	1541	13478	1816	11625	433
	5	209	91	9368	5190	8895	4457	1698
	6	87	213	5587	9917	4225	9131	1641
	7	144	156	6394	8273	6444	7695	1912
	8	265	35	11855	3325	10247	3070	892
	9	27	273	1773	9662	2643	10802	454

Subjects	Condition	Reinforcers		Responses		Time		Changeovers
		Red	Blue	Red	Blue	Red	Blue	
		Phase II—Sessions 51 to 55						
22	1	35	115	1348	3191	845	5719	251
	2	106	44	4569	4347	2348	4532	723
	3	20	130	1358	5957	790	5258	243
	4	129	21	7860	634	6115	1494	176
	5	48	102	2527	7153	1213	4664	429
23	1	133	17	5505	788	5312	1137	282
	2	16	134	1030	3905	1013	4842	332
	3	112	38	4858	837	5580	1142	250
	4	41	109	685	2127	1949	6790	246
	5	116	34	2896	603	5314	1012	196
24	1	19	131	1211	6506	861	5558	200
	2	129	21	4550	1411	4157	1478	254
	3	34	116	1242	6879	1057	5220	194
	4	114	36	3567	1334	4668	1856	225
	5	30	120	581	3296	982	4264	205
25	1	104	46	6011	2851	3997	2128	689
	2	44	106	2756	5741	1842	4525	697
	3	111	39	4862	2898	3696	2397	748
	4	39	111	1476	4711	1377	4606	471
	5	130	20	4732	1151	4392	1423	530
		Phase II—Sessions 26 to 30						
21	1	106	44	4923	3399	4397	2155	360
	2	38	112	2545	5410	1812	4779	338
	3	129	21	6001	971	5390	936	196
	4	21	129	1462	4344	949	5010	263
	5	—	—	—	—	—	—	—
22	1	36	114	1661	4333	924	5729	309
	2	105	45	4290	4086	2226	4566	695
	3	19	131	1345	8821	1053	9228	246
	4	129	21	7743	2050	4697	1668	260
	5	42	108	1597	5983	971	5971	281
23	1	129	21	3698	1025	5035	1465	283
	2	17	133	1182	4122	1223	4351	259
	3	111	39	4757	734	10760	2273	294
	4	43	107	2458	1906	2825	4106	319
	5	118	32	3155	683	5103	1342	234
24	1	19	131	1340	5945	1095	5435	227
	2	132	18	5388	1075	4689	909	227
	3	39	111	1697	6214	2434	7843	309
	4	115	35	4979	1087	5142	1071	243
	5	33	117	599	5386	743	6190	187
25	1	103	47	4319	2430	3926	2596	601
	2	46	104	3242	4757	2175	3711	759
	3	109	41	4127	2954	5654	5205	1052
	4	39	111	2441	4421	1846	4124	766
	5	127	23	4631	2469	4529	2285	713